

## REMARKS

Applicant appreciates the thorough examination of the present application as evidenced by the Office Action of June 22, 2010 (hereinafter "Office Action"). Applicant has carefully considered the rejections presented in the Office Action, and in response, has added new dependent Claims 17 and 18, which further specify that the instrument of the substitute specification of Claim 10 "belongs to a same category" and "is selected based on a register" of the instrument specified in the music score file, respectively, and new independent Claim 19, which includes similar recitations. Independent Claims 1 and 10 have also been amended to clarify that original instrument specification is replaced with the substitute specification "in accordance with the transmission frequency range of the loudspeaker." Support for these amendments can be found, for example, at Page 5, lines 4-14. No new matter has been added.

Accordingly, Applicant respectfully request further consideration and allowance of the pending claims for at least the following reasons.

### **The Section 103 Rejections**

Claims 1-3, 7-14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wachi et al. U.S. Patent Application Publication 2001/0049994 (hereinafter, "Wachi") in view of Clynes U.S. Patent 5,590,282. Independent Claim 10, for example, recites:

10. An apparatus for rendering sampled data from a music file according to a transmission characteristic of a loudspeaker of a mobile terminal of a wireless communication system, the apparatus comprising:  
storage means for storing the music file and data related to transmission characteristics of one or more loudspeakers,  
selection means for selecting data for a particular loudspeaker from the storage means,  
low frequency sound identification means for identifying audio data in the music file which represent a sound with a spectral component below a transmission frequency range of the particular loudspeaker corresponding to the selected data,  
**control means for controlling a modification of a sound reproduction from the identified audio data such that the modified sound reproduction yields a sound spectrum having an increased energy content within the transmission frequency range of the particular loudspeaker** as compared to a sound spectrum of an unmodified sound reproduction; and  
synthesizing means for synthesizing sampled data from a modified music file,

wherein the music file is a music score file, and **wherein the control means modifies the music score file** to provide the modified music file **by replacing a specification of an instrument provided in the music score file** for the identified audio data **with a substitute specification of an instrument having brighter timbre in accordance with the transmission frequency range of the loudspeaker.** (*Emphasis added*).

However, Applicant submits that Wachi and Clynes fail to disclose or suggest several of the recitations of Claim 10, for at least the following reasons.

First, the cited references do not disclose or suggest modifying a music score file by replacing a specification of an instrument provided in the music score file “**with a substitute specification of an instrument having a brighter timbre**” to yield “**a sound spectrum having an increased energy content within the transmission frequency range of the particular loudspeaker as compared to a sound spectrum of an unmodified sound reproduction,**” as recited by Claim 10. In its rejection of Claim 10, the Office Action concedes that Wachi does not disclose a music score file that specifies an instrument and/or replacing an instrument specification therein with a substitute specification of an instrument having brighter timbre. *See* Office Action, Page 4. As such, the Office Action relies on Clynes as disclosing these recitations.

However, while Clynes may describe that a user can use a user interface to “[s]witch the instruments that play” in a music score (Clynes, Col. 5, line 60), Clynes does not disclose or suggest switching of instruments according to a transmission frequency range of a loudspeaker of a mobile terminal. To the contrary, Clynes describes that the user or subscriber may modify a music score “so as to render the performance of the composition meaningful and expressive in a way dictated by the subscriber” (Clynes, column 4, lines 18-22), which is completely unrelated to (and indeed may be a competing goal with) the transmission frequency range of a loudspeaker of the mobile terminal. Thus, while Clynes may describe switching of a specified instrument according to a user’s preferences, Clynes provides no disclosure or suggestion of doing so “in accordance with the transmission frequency range of the particular loudspeaker,” nor specifically for “audio data in the music file which represents a sound with a spectral component below a transmission frequency range of the particular loudspeaker,” as recited by Claim 10.

Moreover, while Wachi may describe that the characteristics of an electroacoustic converter (such as a cutoff frequency) may be taken into account when generating the pseudo low tone waveforms described therein (*see*, for example, Paragraph 0175), Wachi does not

disclose or suggest that such characteristics could be used as a basis for replacing a specification of an instrument. Rather, Wachi addresses this issue by generating a “pseudo low tone” signal by mixing a designated pitch that is lower than a critical pitch associated with a speaker with at least two overtones that are higher than the critical pitch of the speaker. *See* Wachi, Paragraph 0008. Furthermore, the operations of Wachi are performed when receiving a sounding instruction designating the pitch (e.g., at the time of rendering). Thus, the operations for switching instruments in accordance with user preferences (e.g., at the time of user selection), as described by Clynes, would be a significant deviation from the teachings of Wachi. Accordingly, Applicant submits that the combination of Wachi and Clynes fail to disclose at least the above-highlighted recitations of Claim 1.

Second, the Office Action fails to establish the obviousness of the combination based on the “obvious to try” rationale. In particular, the Office Action asserts that the combination of Wachi and Clynes is justified because “there is a finite number of predictable potential solutions (i.e., brighter timbre, darker timbre) to the recognized need (i.e., different instrument),” and that “[i]t would have been obvious...to try to have incorporated the music information highway taught by Clynes with the apparatus for rendering sampled data from a music file of Wachi.” *See* Office Action, Pages 4 and 8.

However, as noted in the MPEP, to support a rejection under the “obvious to try” rationale, Office personnel must articulate “a finding that at the time of the invention, there had been a recognized problem or need in the art.” MPEP, §2143(E). In the present case, the Office Action argues that there are a finite number of predictable solutions to the alleged “recognized need (i.e., different instrument).” Office Action, Page 5. However, this alleged problem or need for a “different instrument” is not provided in the cited references, but rather, merely repeats the recitations of Claim 10. Indeed, neither Wachi nor Clynes recognize a need for a different instrument; to the contrary, Wachi contains no mention of selecting a different instrument, while Clynes describes a user’s preference for switching instruments in order to be more expressive. Thus, the “recognized need” relied upon by the Final Action is not provided by the cited art, but rather, appears to be based on hindsight reasoning informed solely by Applicant’s disclosure, which is prohibited by the MPEP. *See* MPEP, §2142 (“[t]he tendency to resort to “hindsight” based upon applicant’s disclosure is often difficult to avoid...[h]owever, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art”). Accordingly, as the Office Action fails to provide the recognized need required by MPEP

§2143(E), Applicant submits that the Office Action fails to establish a *prima facie* case of obviousness based on the “obvious to try” rationale.

Third, Applicant submits that the combination of the cited references may render Clynes unsatisfactory for its intended purpose. In particular, if the teachings of Clynes and Wachi were combined “for the purpose of rendering the music scores meaningful and expressive” as argued by the Office Action, one of ordinary skill would arrive at a solution in which both the user’s preferences and the characteristics of speaker are taken into account in modifying a music score. However, Applicant notes that these different approaches may be incompatible in some instances. In particular, in Clynes, the user provides a selection to switch instruments, which necessarily occurs in advance of rendering of the sound. In contrast, the operations of Wachi are performed responsive to a sounding instruction to play a designated pitch, that is, at the time of rendering. Accordingly, when combined, the sound provided by the instrument that was previously selected by the user (in accordance with the teachings of Clynes) may be altered when the selected instrument provides sound having a pitch below the cutoff frequency of the speaker (in accordance with the teachings of Wachi). In other words, if combined, the system of Wachi may defeat the stated purpose of Clynes (that is, to render the performance “expressive”), by undoing the user’s personal or expressive selections when they conflict with the critical pitch of the speaker. Thus, Applicant submits that the proposed modification would render Clynes unsatisfactory for its intended purpose, which is contrary to MPEP §2143.01(V) (“[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification”).

Finally, the Office Action fails to provide a rational underpinning to support the combination of references. As noted in the *2010 KSR Guidelines Update* (published in the Federal Register on September 1, 2010) “merely pointing to the presence of all claim elements in the prior art is not a complete statement of a rejection for obviousness” and “a proper rejection based on the rationale that the claimed invention is a combination of prior art elements also includes a finding that results flowing from the combination would have been predictable to a person of ordinary skill in the art.” “Examination Guidelines Update: Developments in the Obviousness Inquiry After KSR v. Teleflex; Notice,” 75 Federal Register 169 (1 September 2010), pp. 53647.

However, the Office Action provides no such finding or rational underpinning, but rather, asserts that it would be obvious to incorporate the music scores described in Clynes

with the apparatus of Wachi “for purpose of rendering the music scores meaningful and expressive” (Office Action, Page 8), which merely repeats a stated goal of Clynes (*see* Clynes, Col. 4, lines 10-11). Thus, as the Office Action merely points to the presence of the claim elements without providing a line of reasoning as to why it would be predictable to one of ordinary skill in the art to combine the teachings of Wachi (which is concerned with generating tones based on the dynamic range of a selected sound system) with those of Clynes (which is concerned with allowing a user to create expressive music), Applicant respectfully submits that the Final Action’s rationale is contrary to both the *2010 KSR Guidelines Update* and MPEP §2142 (“rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness”).

For at least these reasons, Applicant submits that the Office Action has failed to establish a *prima facie* case of obviousness, and that Claim 10 is therefore patentable over the cited references. Independent Claims 1 and 19 include method recitations similar to the apparatus of Claim 10, and are thus patentable for at least similar reasons. Also, dependent Claims 2, 3, 7-9, 11-14, and 17-18 are patentable at least per the patentability of Claims 1 or 10 from which they depend.

#### **Many of the Dependent Claims Are Separately Patentable**

While each of the dependent claims is patentable per the patentability of independent Claims 1 and 10 from which it depends, as noted above, Applicant submits that many claims contain separate bases for patentability.

For example, new Claim 17 recites that “**the instrument of the substitute specification belongs to a same category of instrument as the instrument of the specification provided in the music score file,**” while new Claim 18 recites that “**the substitute specification is selected based on a register in which the instrument of the specification provided in the music score file is to be replayed.**” However, the Office Action concedes that Wachi does not disclose or suggest a specification of a particular instrument to be used in reproducing the sound described therein, and thus, necessarily fails to disclose or suggest selection of an instrument in the same category or based on the register thereof. Furthermore, while Clynes may note that a user may switch the instruments that play (*see* Clynes, Col. 5, line 60), the cited portions of Clynes do not disclose or suggest that the user is required to switch to another instrument that belongs to the same instrument

category or based on the register of the originally specified instrument. Accordingly, Applicant submits that Claims 17 and 18 are separately patentable for at least these reasons. Dependent Claims 2 and 3 includes similar recitations as Claims 17 and 18, respectively, and are thus patentable for at least similar reasons.

Applicant further notes that, as each of the remaining dependent claims depends from a base claim that is believed to be in condition for allowance, Applicant does not believe that it is necessary to argue the allowability of each of these claims individually. Applicant does not necessarily concur with the interpretation of these claims, or with the bases for rejection set forth in the Office Action. Applicant therefore reserves the right to address the patentability of these claims individually as necessary in the future.

### **Conclusion**

Accordingly, based on the above amendments and remarks, Applicant submits that the pending claims are now in condition for allowance. Thus, Applicant respectfully requests allowance of these claims and passing the application to issue. Applicant encourages the Examiner to contact the undersigned to resolve any remaining issues.

Respectfully submitted,



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Audra Wooten